

A P P E N D I X - III-A

PORTUGUESE WEIGHTS AND MEASURES

We will give the weights and the measures and their equivalents to those which were related to Indo-Portuguese history concerning Bassein.

Portuguese Weights

Following are the Portuguese weights which are in practice in Bassein and other Portuguese colonies :

1. TONELADA : 793 Kilograms (13.5 quintaes = 54 arrobas)
2. QUINTAL : Hundredweight : 59 Kg. (4 arrobas)
3. Arroba : 15 Kg. (32 arrateis)
4. ARRATEL : (Pound) : 0.459 kg.
5. QUATRO : 0.11 kg., (4 onças)
6. ONÇA : (Ounce) 0.03 kg.
7. QUILATE : (Carat) 0.20 gramme (4 grains). This was the measure for gold and precious stones.¹

In addition to these Portuguese weights, there were certain Asian measures which were in use in Portuguese India. They were as follows :

1. BAHAR -

It weighed 141-330 Kg. varying according to time, place and wares. According to Antonio Nunes, it weighed 235 kg. in Bassein, 330 in Banda, 205 kg. in Cannanore, 235 kg. in Chauletc. The small Bahar had 3 Quintaes, 16 arrateis. In 1537, 310 bahars were the equivalent of 1500 quintaes.²

1. George Schurhammer, op.cit., Vol.II, p.673.

2. Leitão, op.cit., p.78;
Henry Yule, op.cit., p.47.

2. KANDIL -

It weighed 200 kg. in Goa in 1554, equivalent to 480 arrateis, that is 3 quintaes or 3 arrobas, which was equivalent of 325 kg in Chaul, 214 in Cochin,³ or 220.22 in Marathi it is known as Khandi.

3. MAO or MAN (Maund) -

It weighed 1.75 kg. differing according to place and circumstances. It had 11.01 kg. in Goa, 11.75 in Bassein, 10.55 in Negapatam in 1554. It was equal to around 24 arrateis.⁴ According to Garcia da Orta, it was equivalent of 27 in Cambay.⁵ Candil and Mao (Maund) though used in Goa primarily at that time, were also used in Malabar and even today these weights are used in the villages among the common people for weighing commodities like ginger, tapioca etc.⁶ The same practice is followed in Bassein. The farmers weigh the corn in maunds, 20 maunds being equivalent to one Khandi (Candil).

3. Nunes, op.cit., p.31; Dalgado, op.cit., Vol.I, p.199; K.S.Mathew, op.cit., p.236.

4. Nunes, op.cit., p.31.

5. Garcia da Orta, op.cit., Vol.II, p.330.

Nunes op.cit., p.31; Dalgado, op.cit., Vol.II, p.34.
Henry Yule, op.cit., p.563.

6. K.S.Mathew, op.cit., p.238.

A P P E N D I X - III-BPORTUGUESE MEASURES

The Portuguese measures which were used, can be divided into three categories namely linear measures, dry measures and liquid measures.

A. LINEAR MEASURES - *Lequa*

1. Leuga - 6.1-6.6 km. The English League has 48.8 km.
2. Leuga maritima - 5.5 km (1/20 degree)
3. Milha. 2 km. The English mile has 1.62 km. *Lequa*
4. Milha Maritima: (Sea-mile.knot) 1.8 km.(1/60 degree)
5. Braca (fathom) 2.18 mm (2varas). The English fathom has 1.83 mm.
6. Vara - (large ell) 1.10 mm (5 palms)
7. Cavado - (small ell) 0.65 mm (3 palms)
8. Pe (foot)- 0.33 mm (15 palms)
9. Palmo - (span) : 0.22 mm
10. Pollegada (inch) : 0.02 m¹

B. DRY MEASURES -

1. Moiq - 811 litres (15 fangas)
2. Fanga - 55 Litres (4 alequeires)
3. Almude - 16.25 litres (1/2 fangas)
4. Alqueire - (bushel) 13.5 litres.
5. Quarta - 3.3 litres.²

These were the Portuguese measures to which some Asian measures were added by them.

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1. George Schurhammer, St.Francis..., op.cit., p.672.
 2. Schurhammer, op.cit., p.673.

Asian Measures

1. Kandil - This was the measure used to weigh wheat and rice, which was 245 litres in Goa and Bassein, 218 in Cochin.³
2. Curo - (Alqueire) 8 litres.⁴
3. Medida - 1 litre.⁵
4. Jarra - 33.6 litres.⁶

C. LIQUID MEASURES -

1. Tonelada - 860 Litres (2 pipas)
2. Pipa - 430 litres (26 almudes)
3. Barril - 298 litres (18 almudes)
4. Almude - 16.5 litres (2 alquires)
5. Alqueire - 8 litres (6 canadas)
6. Cardada - 1.3 litres.⁷

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3. Nunes, op.cit., p.31; Dalgado, op.cit., Vol.I, p.199.
 4. Dalgado, op.cit., Vol.I, p.337.
 5. Nunes, op.cit., p.40; Dalgado, op.cit., Vol.II, p.47.
 6. Nunes, op.cit., p.40; Dalgado, op.cit., Vol.I, p.488
 7. Schurhammer, op.cit., p.673.